

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

ROAD PLAN

SALE NAME: Tie Dye

ROAD PLAN DATE: December 6, 2004

SCOPE OF PROJECT

This project includes, but is not limited to new construction including: clearing, grubbing, right-of-way debris disposal, excavation and/or embankment to subgrade, landing construction, acquisition and installation of drainage structures, and hauling and application of rock, and road deactivation.

This project also includes, but is not limited to reconstruction including:

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
H-2000	MP 0.4	Replace culvert as per culvert replacement detail sheet. Raise road grade above culvert.

This project also includes, but is not limited to pre-haul and post-haul maintenance including:

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
LS 8+00	0+00-8+00	Fill in tank trap and brush road right of way.
LS 8+80	0+00-8+80	Remove stumps and brush road right of way.

SECTION 1 - GENERAL CLAUSES

1.1-1

Clauses in this plan apply to all construction or reconstruction or pre-haul or post-haul maintenance including landings unless otherwise noted.

1.1-2

Construction or reconstruction or pre-haul maintenance of the following roads is required. All roads shall be constructed on the State's location and in accordance with the Road Plan.

<u>Road</u>	<u>Length</u>	<u>Type</u>
H-2000	1.5 stations	Reconstruction

1.1-3

Construction or reconstruction or pre-haul maintenance of the following roads is not required. **If the Purchaser elects to use any of these roads, they shall be constructed or reconstructed on the State's location and in accordance with this Road Plan.**

<u>Road</u>	<u>Length</u>	<u>Type</u>
LS 3+94	3.94 stations	Construction
LS 8+00	8.00 stations	Pre-haul maintenance
LS 8+80	8.80 stations	Pre-haul maintenance

1.1-4

Any departure from this Road Plan including relocation, extension, change in design or additional roads shall be submitted, in writing, to the Contract Administrator for consideration. Submitted plans must be approved before construction begins.

1.1-5

On this plan quantities are minimum acceptable values. Additional quantities required by the State because of hidden conditions or Purchaser's choice of construction season or techniques shall be at the Purchaser's expense. Hidden conditions include, but are not limited to, solid subsurface rock, subsurface springs or saturated ground, and unstable soil.

1.2-1

Construction and/or reconstruction shall not be permitted from October 15 to July 15 unless authority to do so is granted, in writing, by the Contract Administrator.

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1.2.1-1

Pioneering shall not extend past construction that will be completed during the current construction season. Drainage shall be provided on all uncompleted construction as approved, in writing, by the Contract Administrator.

Clearing and grubbing shall be completed prior to starting excavation and embankment.

Culvert placement in live streams shall precede embankment where culverts are to be placed along natural ground. Temporary diversion culverts shall be provided when designed culverts are elevated above natural ground within embankments.

Culverts shall be installed in completed subgrade as construction progresses.

Subgrade, ditches and culvert installation shall be completed and are subject to written approval by the Contract Administrator prior to rock application.

1.2-2

Purchaser shall not use roads constructed or reconstructed or pre-haul maintained under this Road Plan for hauling, other than timber cut on the right of way, without written approval from the Contract Administrator.

1.2-3

All roads shall be constructed using track mounted hydraulic excavators unless otherwise authorized, in writing, by the Contract Administrator.

SECTION 2 - CLEARING

2.1-1

Fell all vegetative material larger than 6 inches dbh or over 20 feet high between the marked right-of-way boundaries and within waste areas or if not marked in the field, between clearing limits specified on Typical Section Sheet.

2.1-3

Right-of-way timber shall not be decked within the grubbing limits or in locations that interfere with the construction of the road prism, as defined by the Contract Administrator. Right-of-way timber shall not be decked in locations that impede drainage.

SECTION 3 - GRUBBING

3-1

All stumps shall be removed that fall between grubbing limits shown on the Typical Section Sheet. Those with undercut roots shall be removed.

3-2

Grubbing limits are defined as the entire area between external limits shown on the Typical Section Sheet.

SECTION 4 - DEBRIS DISPOSAL AND REMOVAL

4.1-1

Right-of-way debris is defined as all vegetative material larger than one cubic foot in volume, within the clearing limits.

4.1-2

All right-of-way debris disposal shall be completed prior to application of rock.

4.2.3-3

Right-of-way debris shall not be placed against standing timber.

4.2.3-4

Right of way debris shall be scattered outside the grubbing limits.

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SECTION 5 - EXCAVATION

- 5.1-1 Unless controlled by construction stakes or specific design sheets herein, roads shall be constructed in accordance with dimensions shown on the Typical Section Sheet.
- 5.1-3 The construction of road grade and alignment shall conform to the State's marked location. The reconstruction of existing road grades shall conform to the original location except as directed by the contract administrator. Grade and alignment shall have smooth continuity, without abrupt changes in direction.
- 5.1-12 Organic material shall be excluded from embankment shown on Typical Section Sheet and from waste material deposited on slopes in excess of 40 percent.
- 5.1-15 Excavated material may be deposited adjacent to the road prism on side slopes up to 45 percent if the material is compacted and more than 50 feet away from live streams.
- 5.1-21 Waste material shall not be deposited within 50 feet of a live stream except as noted on culvert removal detail sheets.
- 5.2-1 Pioneering operations shall not undercut the final cut slope, deposit excavated material outside the right-of-way limits or restrict drainage.
- 5.4-1 Silt-bearing runoff, as defined by the Contract Administrator, shall not be permitted to go into streams.
- 5.4-2 Accomplish sediment removal through silt traps, silt fences, settling ponds or other methods to be approved, in writing, by the Contract Administrator.
- 5.5-5 Finished subgrade shall be crowned as shown on the Typical Section Sheet. Grade and compact to a uniform, firm, rut-free surface to ensure surface runoff in an even unconcentrated manner.

SECTION 6 - DRAINAGE

- 6.2.1-1 Purchaser shall furnish, install and maintain corrugated polyethylene and/or aluminized steel Type 2 (ASTM A929, A760, A796, AASHTO M274, M36) pipe as designated on Culvert List. Culvert and flume lengths shall be varied to fit as built conditions subject to written approval by the Contract Administrator. The nine foot culvert MP 0.4, H-2000 shall be aluminized steel, 10 gage, 1x3 corrugations.
- 6.2.1-1A Corrugated polyethylene pipe shall have a corrugated exterior and smooth interior, shall meet ASTM F405, F667 and AASHTO M252, M294 Standard Specifications, and shall be manufactured with high density polyethylene resins.
- 6.2.1-2 Manufacturer's approved connectors shall be used for corrugated polyethylene pipe. Annular corrugated bands and culverts ends shall be used on aluminized steel pipe.
- 6.2.2.2-1 Any damaged aluminized coating or cut ends shall be retreated with a minimum of 2 coats of zinc rich paint.

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6.2.2.4-1

Installation of culverts 36 inches in diameter and over shall be approved in writing by the Contract Administrator prior to making backfill. Culverts over 36 inches in diameter shall not be installed unless a District Engineer is present.

6.3-1

Ditches shall be constructed prior to application of rock. Ditches shall drain to culverts, ditchouts and natural drainages.

6.3-2

Shaping the ditchline, culvert headwalls and catchbasins shall be completed prior to application of rock and shall be done in accordance with the Typical Section Sheet and Drainage Specification Detail.

SECTION 7 - ROCK

7.1-1

Rock used under this contract may be obtained from the following pits on State land:

<u>Source # / Name</u>	<u>Location</u>	<u>Rock Type</u>
A/Winfield South	S35, 27-12W	Pitrun
B/Winfield North	" "	1 ½ " minus crushed stockpile
C/Red Creek Quarry	S34, 27-11W	Rip Rap, oversize in-culvert fill

7.2-1

All pit operations shall be done according to State plans as listed below:

Pit

Winfield Surface Mine, Red Creek Quarry

7.4.2-1

Apply at least the minimum required rock quantity as shown on the Rock List.

7.4.2-2

Subgrade shall be approved, in writing, by the Contract Administrator prior to application of rock.

7.4.2-8

Each lift of rock shall be shaped as shown on the Rock List and shall be uniform, firm, rut-free and shaped to ensure surface runoff in an even unconcentrated manner.

7.4.3-3

Rock shall be spread, shaped and compacted concurrently with rock hauling operations.

SECTION 9 - ROAD DEACTIVATION

9.1-1

The following roads shall be deactivated by the purchaser following completion of timber harvest.
LS 8+00, LS 3+94, LS 8+80

9.1-2

Deactivation shall consist of:

1. Removing the culvert as shown on the plan view as per the culvert removal detail sheet. Material removed shall be placed on the road bed and compacted, with slopes of 2:1 or shallower.
2. Removed culvert shall be the property of the Purchaser and removed from State Land.
3. Construct water bars in locations as directed by the Contract Administrator. Water bars shall intercept the ditch line, be keyed into the road cut slope and freely drain. On grades in excess of 3%, water bars shall be skewed 30 degrees from the perpendicular of the road centerline. Water bars shall have a gravel surface covering the wetted perimeter. Rock from the present road surface may

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be used where excavation occurs below the present surfacing rock depth.

4. Purchaser shall furnish and apply grass seed to all areas of exposed soil. Including but not limited to: Un-vegetated fill slopes, ditch lines, water bars, culvert removal sites and tank traps. Grass seed shall be applied at a rate of 60 pounds per acre.

5. Purchaser shall furnish and apply hay mulch to exposed areas at the culvert removal site. Hay shall be applied approximately three inches thick.

6. Block the roads to vehicular traffic by the means of A tank trap.

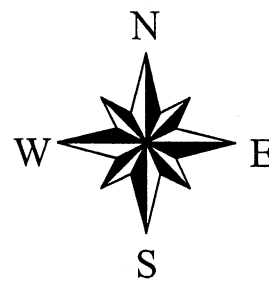
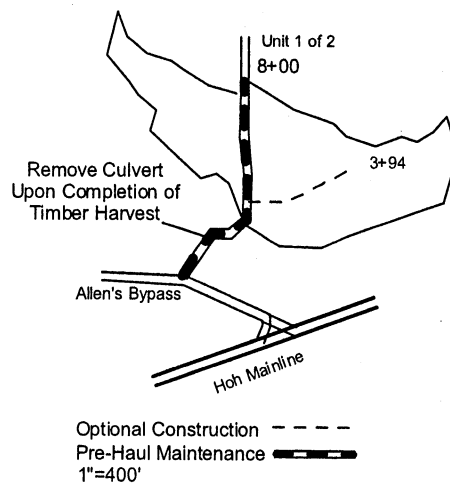
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PLAN VIEW



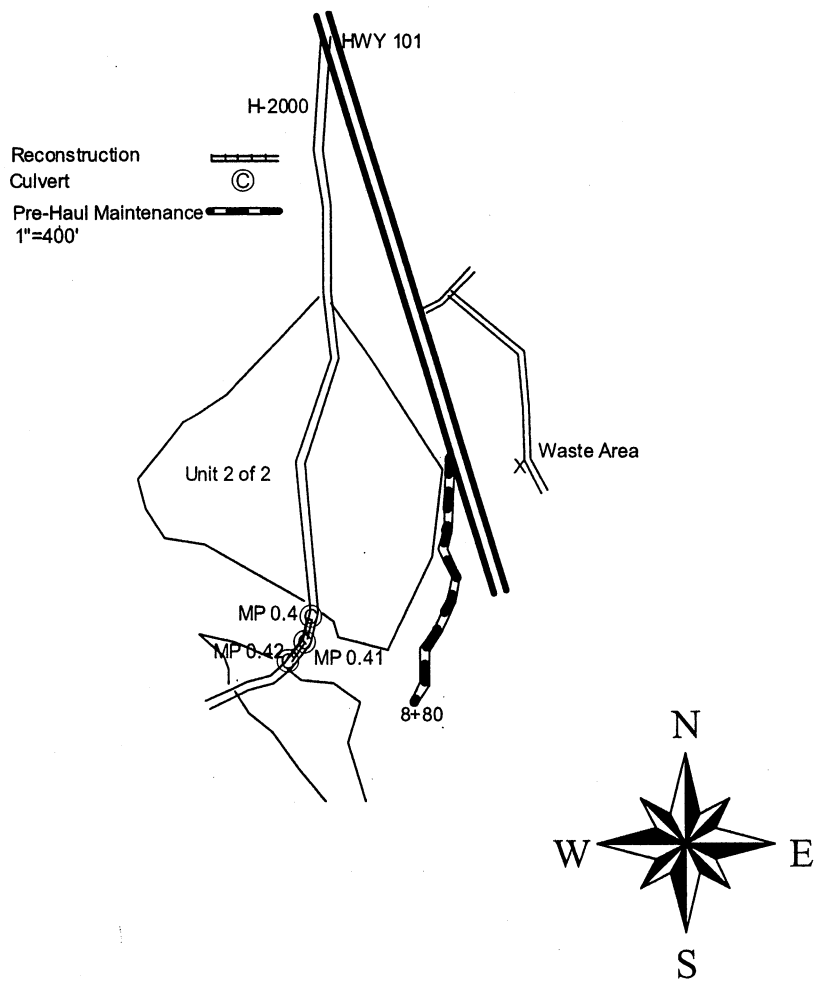
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PLAN VIEW



ROAD PLAN

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A cross-sectional diagram of a road structure. It shows three distinct layers: a bottom layer labeled 'SUBGRADE' with a brick-like pattern, a middle layer labeled 'BALLAST' with a dotted pattern, and a top layer labeled 'SURFACE' with a horizontal line pattern. Three horizontal dimension lines are shown above the road: the widest one is labeled 'SUBGRADE WIDTH', the middle one is labeled 'BALLAST WIDTH', and the narrowest one is labeled 'SURFACE WIDTH'. A vertical line with an arrow points to the center of the road, labeled 'C' for centerline. The road slopes down on both sides from the centerline.

1. Rock quantities, subtotals and totals are “truck measure” estimates. Rock shall be applied to at least the depths listed. All depths are compacted depths.
2. Rock slopes shall be 1½ (H) : 1 (V).
3. All rock sources are subject to approval by the Contract Administrator.
4. Rock source A= Winfield Pit, Pitrun,
Rock source B= Winfield Pit, 1 ½ “ crushed
Rock source C= Red Creek Quarry, Rip Rap, Culvert Backfill Oversize

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Required Minimum Gauge for Metal Pipe

Contract Number: 76354

ROAD PLAN

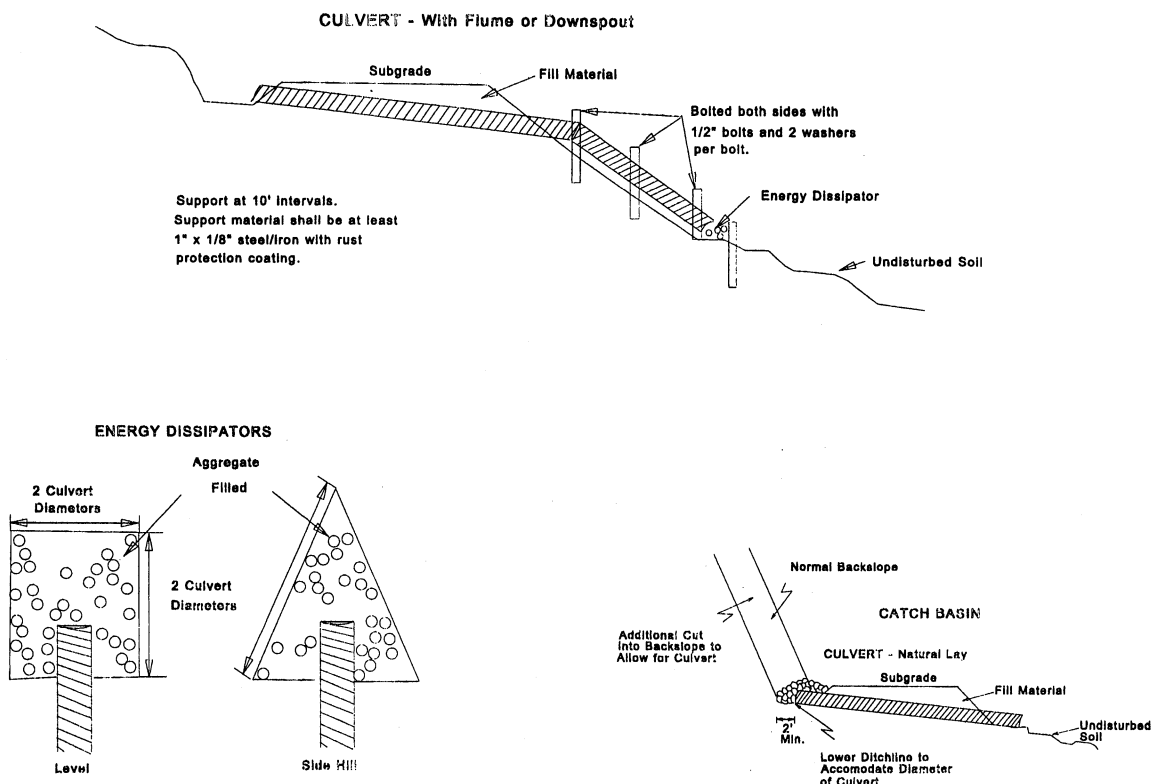
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CULVERT AND DRAINAGE SPECIFICATION DETAIL

INSTALLATION REQUIREMENTS:

1. Proper preparation of foundation and placement of bedding material shall precede the installation of all culvert pipe. This includes necessary leveling of the native trench bottom and compaction of required bedding material to form a uniform dense unyielding base. The backfill material shall be placed so that the pipe is uniformly supported along the barrel.
2. All bedding material of poor or non-uniform bearing capacity shall be removed and replaced with suitable fill. Crushed stone, gravel or compacted soil backfill material shall be used as the bedding and envelope material around the culvert. The aggregate size shall not exceed $1/6$ pipe diameter or 4", whichever is smaller. All material shall be compacted in six inch layers under the haunches, around the sides and above the pipe to the minimum height of cover.
3. Crushed stone and gravel backfill materials shall be compacted to a level of 90-95% AASHTO standard density. When native soils are used as backfill material, a compaction level of 85% is required. This minimum compaction can be achieved by either hand or mechanical tamping.



DISSIPATOR SPECIFICATIONS:

Depth: 1 culvert diameter
Aggregate: 6" plus

ROAD PLAN

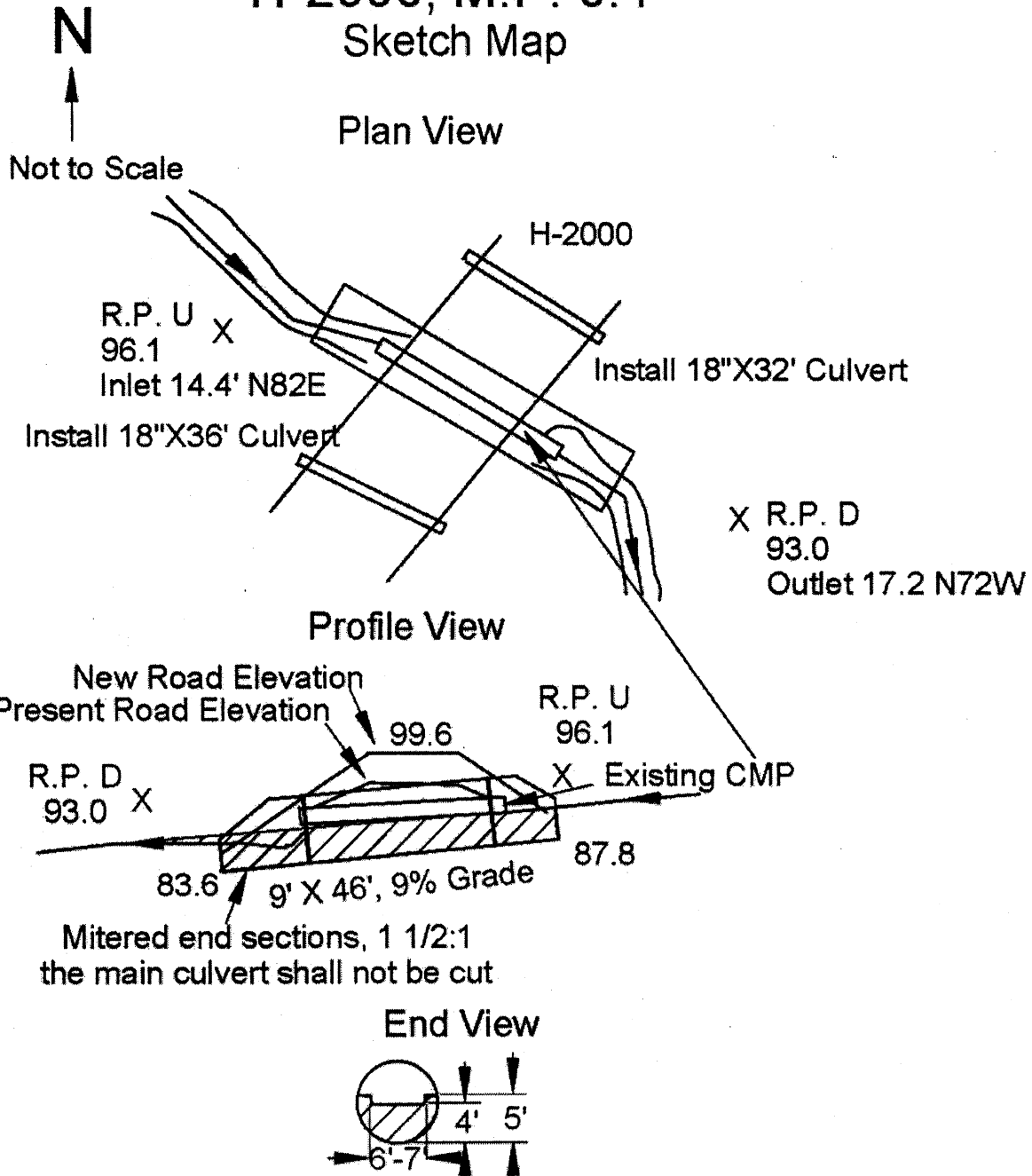
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CULVERT REPLACEMENT DETAIL SHEET

Culvert Replacement Detail Sheet
H-2000, M.P. 0.4

Sketch Map



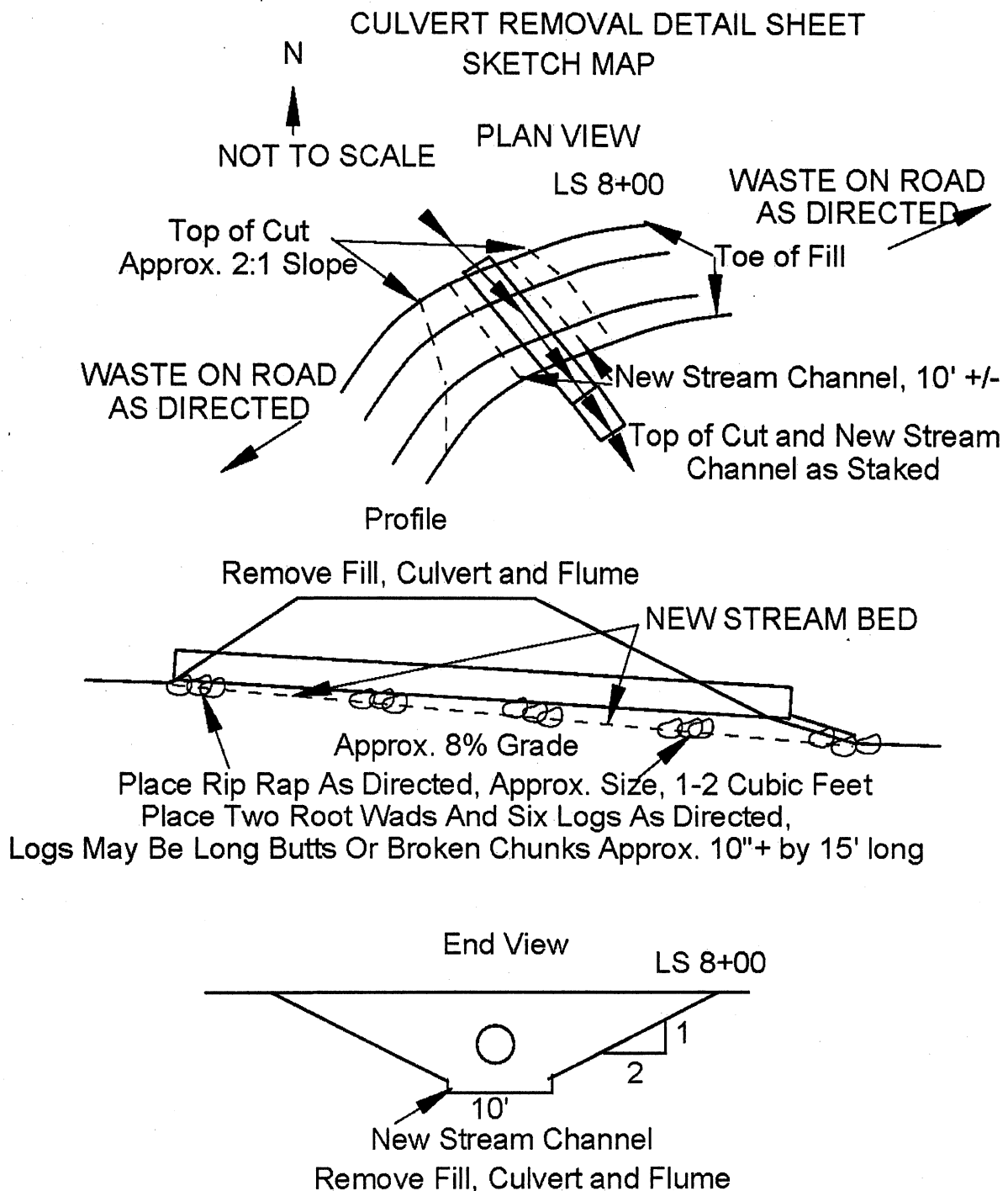
-  Fill interior of culvert and plunge pool with rock.
Approx. 70 Cu. Yds. Winfield Pitrun 50 Cu. Yds.
Red Creek 15 Cu. Yds. 6-12" Spalls, 5 Cu. Yds. 1-2 Cu. Ft.
Rock shall be mixed and placed as directed.

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CULVERT REMOVAL DETAIL SHEET



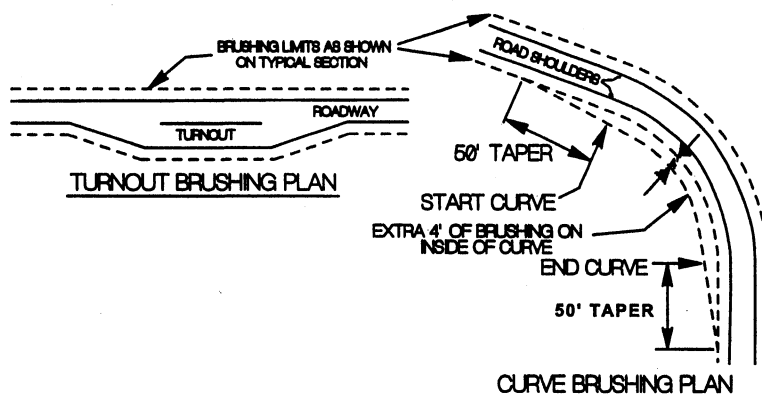
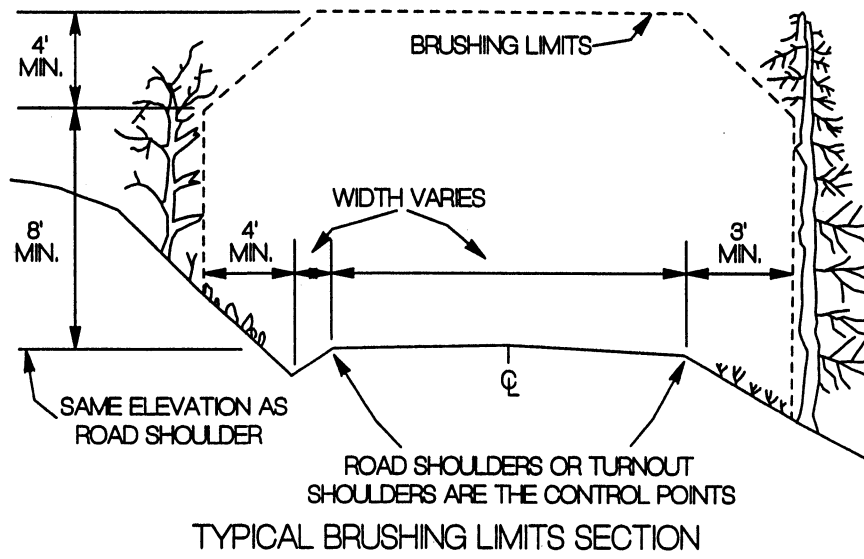
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BRUSHING DETAIL



- 1) ALL VEGETATION WITHIN THE BRUSHING LIMITS SHALL BE CUT TO WITHIN 8" OF THE GROUND, UNLESS OTHERWISE DIRECTED BY THE CONTRACT ADMINISTRATOR.
- 2) ALL BRUSH, TREES, LIMBS, ETC. SHALL BE REMOVED FROM THE ROAD SURFACE.
- 3) ALL BRUSH, TREES, LIMBS, ETC. THAT MAY RESTRICT THE FLOW OF WATER SHALL BE REMOVED FROM THE DITCH LINE.
- 4) ALL DEBRIS THAT MAY ROLL OR MIGRATE INTO THE DITCHLINE SHALL BE REMOVED.

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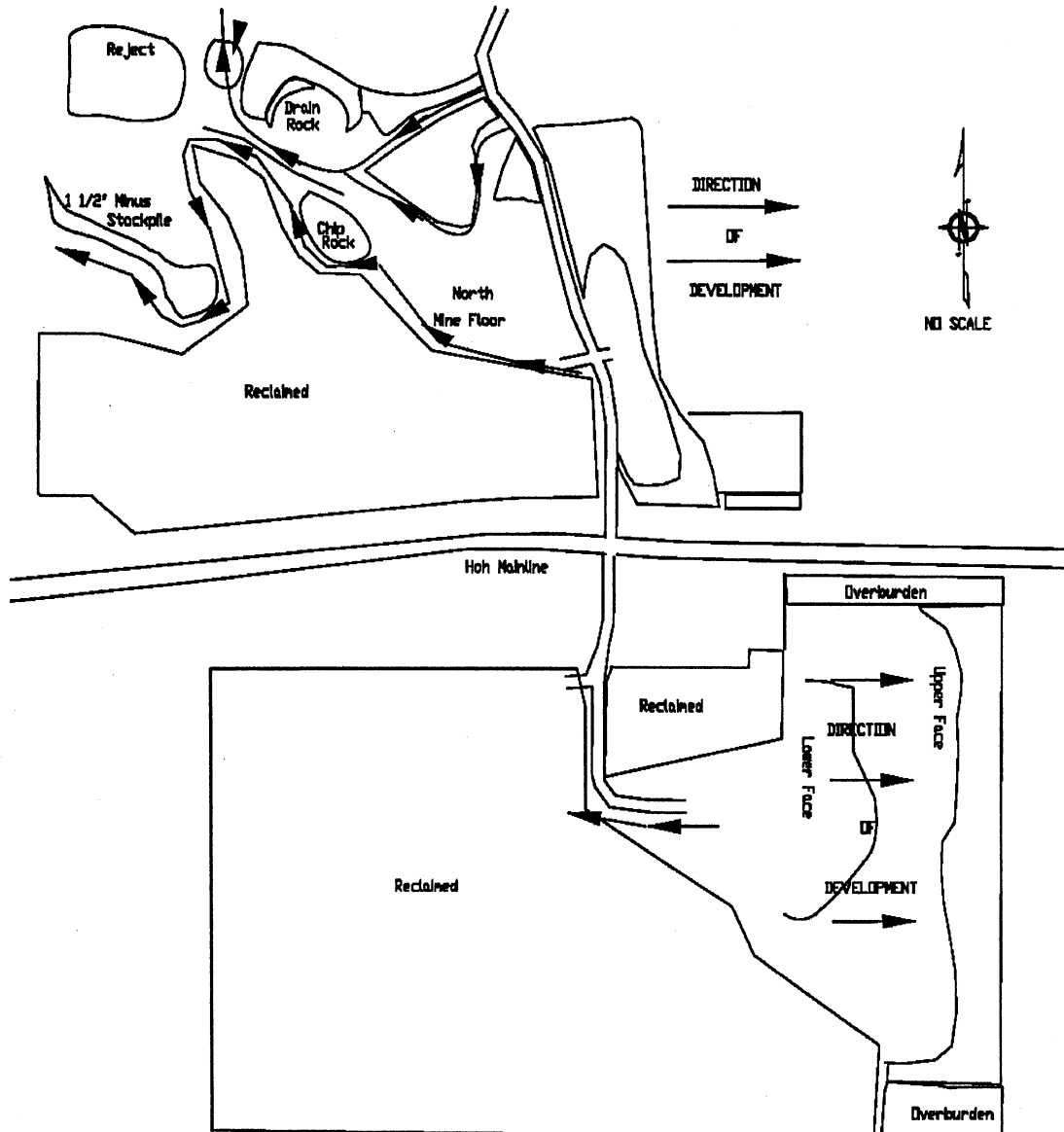
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PIT PLAN

Winfield Surface Mine
Section 35, T. 27 N., R. 12 W., WM.



PIT DEVELOPMENT PLAN 5-9-2003

1. Areas to be developed as directed by the Contract Administrator.
2. Working face height is not to exceed 15 feet.
3. Waste material shall be placed in designated areas.
4. Pit floor to be maintained at a 2% grade toward drain.
5. Suitable drainage shall be maintained at all times.
6. Overburden stripping shall be maintained at least 15 feet back from the working face.
8. Stripping shall mean removal of woody debris and overburden.
9. Contact Pit Manager prior to commencement of pit activities.
10. Operations shall conform with the spill response plans.

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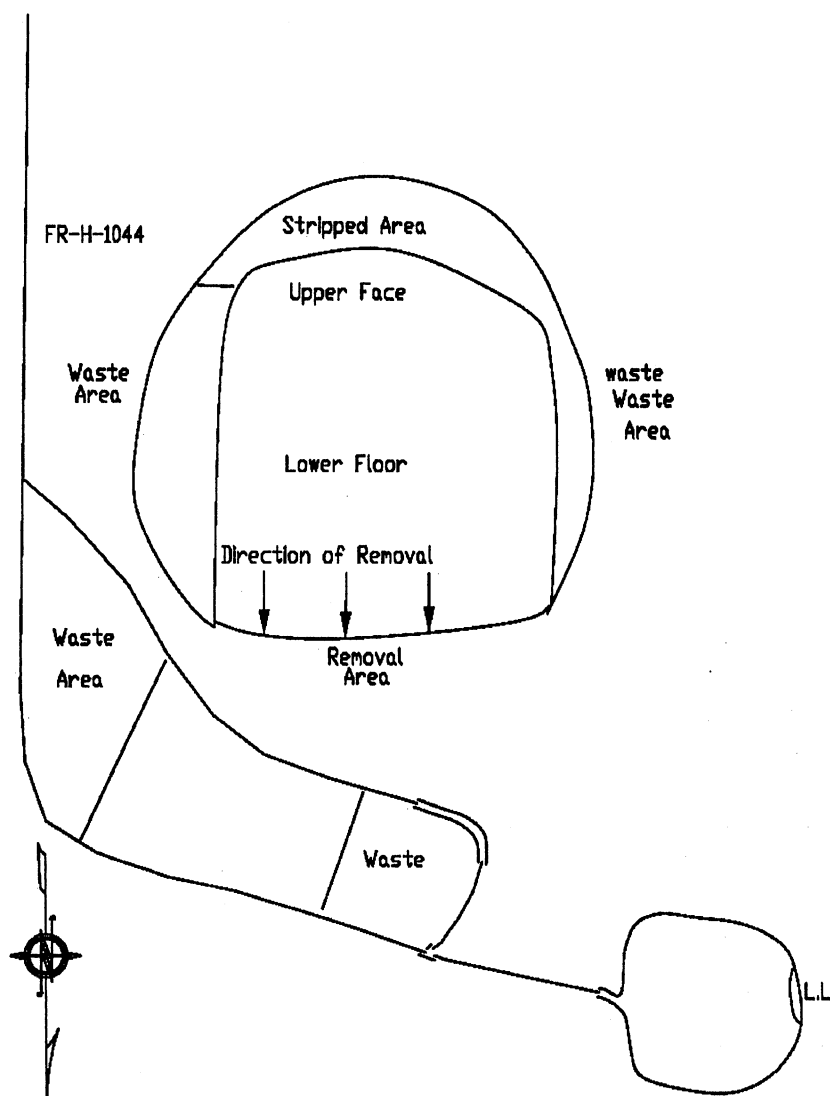
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PIT PLAN

RED CREEK QUARRY
SE1/4 SW1/4, Sec. 34, T. 27 N., R.11W.



DEVELOPMENT PLAN

1. Areas to be developed as directed by the Contract Administrator.
2. Working face not to exceed 29 feet in height.
3. Suitable drainage to be maintained.

Date: July 27, 2001